

Serial No.: 10/599,724  
Atty Dkt: 1759.235

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Serial No.:	10/599,724	Group Art Unit:	1796
Filed:	June 15, 2007	Confirmation No.:	3297
Applicant:	Nicolas Gaillard	Examiner:	Helen L. Pezzuto
Title:	NOVEL HIGH MOLECULAR WEIGHT ASSOCIATIVE AMPHOTERIC POLYMERS AND USES		

**AFFIDAVIT UNDER 37 C.F.R. §1.132**

To: Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

I, Nicolas Gaillard, duly swear and say as follows:

1. I am a citizen of France and a resident of Saint Etienne, France.
2. I am an inventor of the above-referenced U.S. patent application 10/599,724.
3. I am a graduate of Lyon II University, from which I hold PhD Diploma in polymer chemistry. Since 2003 I have been an employee of SNF SAS as a oil field laboratory manager, to which this application is assigned. I am currently a project manager.
4. I have 5 years industrial experience in the area of polymer chemistry.
5. I performed experiments comparing the dissolution rate of a particular polymer of the present invention (ex. Ag3 of Table I) with two polymers disclosed in Schade *et al.* Example

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Ag3 comprised 1 mole % of acrylamide-derived cationic monomer wherein R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> are hydrogen; R<sup>5</sup> and R<sup>6</sup> are methyl; R<sup>7</sup> is C<sub>12</sub>H<sub>25</sub>; and Q is propyl. Ag3 also comprised 27 mole % of the anionic monomer (acrylic acid) and 72 mole % acrylamide-derived non-ionic hydrosoluble monomer (acrylamide).

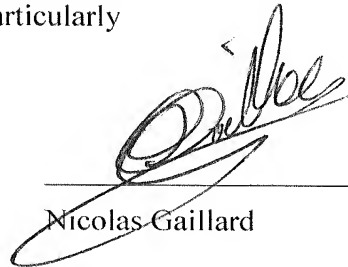
Comparative example 1 (ex. 14) of Schade *et al.* comprised 1 mole % of acrylamide-derived cationic monomer (N-hexadecyl-N'-vinylimidazolium bromide), 55 mole % of the anionic monomer (acrylic acid), and 44 mole % acrylamide-derived non-ionic hydrosoluble monomer (pentaerythritol triallyl ether). Comparative example 2 (ex. 15) comprised 1 mole % of acrylamide-derived cationic monomer (N-octadecyl-N'-vinylimidazolium chloride), 70 mole % of the anionic monomer (acrylic acid), and 29 mole % acrylamide-derived non-ionic hydrosoluble monomer (pentaerythritol triallyl ether).

Examples Ag3, 1, and 2 were separately dissolved in water and the time for dissolution measured. A sample was deemed dissolved in the solvent when no remaining swelled particles are observed in 300 µm filter. Example Ag3 had a dissolution time of 90 minutes while comparative examples 14 and 15 of Schade *et al.* had dissolution times of 240 and 600 minutes respectively. The use of acrylamide-derived non-ionic hydrosoluble monomer in a range between 1 mole % and 30 mole % of the present invention had a superior effect in that the dissolution time was significantly reduced versus the comparative examples of Schade *et al.*, as indicated by the test results.

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6. I have reviewed carefully the Office Action dated May 14, 2008, in the above-referenced case. I have also reviewed the application in the above-referenced case and the references cited in the rejections of the pending claims, particularly



Nicolas Gaillard

13/11/2008

date